

ABSTRACT

The present invention relates to methods for modulating the resistance of cells to foreign compounds, i.e. drugs, antibiotics, etc by altering the ATP gradient across biological membranes. The altering of the ATP gradient across biological membranes is achieved through the manipulation of ecto-phosphatase activity and ABC transporter molecule activity which may be useful to confer herbicide resistance to plants, confer antibiotic resistance to bacteria, confer drug resistance to yeast cells, or to reduce resistance in cells to facilitate chemotherapeutic treatments, and to reduce resistance in bacteria and yeast. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof.